

Patent Claims:

1. Device to create selector positions, that includes at least

5 - a base body (8), that is at least partially surrounded by
- a housing body (2),
- whereby the housing body (2) includes a disk body (3),
that is secured by a basic position magnet arrangement (6)
with respect to base body (8) and that may be moved by at
10 least one motion element (5) with respect to the base body
(8).

2. Device to create selector positions, that includes at least

15 - a base body (8), that is at least partially surrounded by
- a housing body (2),
- whereby the housing body (2) includes a disk body (3),
that is secured by a basic position magnet arrangement (6)
with respect to base body (8) and
20 that may be moved by at least one motion element (5) with
respect to the base body (8), and
- a position arrangement (7), by means of which at least
the position between the base and the housing body (2, 8)
may be determined.

3. Device to create selector positions, that includes at least

- a base body (8), that is at least partially surrounded by
- a housing body (2),

5 - whereby the housing body (2) includes a disk body (3),
that is secured by a basic position magnet arrangement (6)
with respect to base body (8) and
that may be moved by at least one motion element (5) with
respect to the base body (8),

10 - a stator body element (14) with

- * at least one magnet element (12.1, 12.2, 12.3, 12.4),
- * at least one noise sphere receptor recess (19,20), in
which a switching-sound sphere (15,16) is positioned,
and

15 * a shaft guide recess (10),

- a base body formed as a rotor hollow body (8) with at
least

* one position sensor toothed ring element (13) with at
least one position sensor tooth (26), that may be placed
20 opposite the magnet elements (12.1,...),

* one switching-sound ring magnet element (17) with at
least a switching-sound groove (18.1,..., 18.n), into
which the switching-sound spheres (15, 16) may be
inserted,

* one shaft element (9), that is positioned in the shaft guide recess (10) and

- at least one position arrangement (7), by means of which at least the position between the rotor hollow body (8) and the housing body and/or between the rotor hollow body (8) and the [stator body element] (14) may be determined.

4. Device to create selector positions, that includes at least

- a base body (8), that is at least partially surrounded by

- a housing body (2),

- whereby the housing body (2) includes a disk body (3),

that is secured by a basic position magnet arrangement

(6) with respect to base body (8) and

that may be moved by at least one motion element (5)

with respect to the base body (8),

- a stator body element (14) with

* at least one magnet element (12.1, 12.2, 12.3, 12.4),

* at least one noise sphere receptor recess (19,20), in which a switching-sound sphere (15,16) is positioned, and

* a shaft guide recess (10),

- a base body formed as a rotor hollow body (8) with at least

* one position sensor toothed ring element (13) with at least one position sensor tooth (26), that may be placed

5 opposite the magnet elements (12.1,...),

* one switching-sound ring magnet element (17) with at least a switching-sound groove (18.1,..., 18.n), into which the switching-sound spheres (15, 16) may be inserted,

10 * one shaft element (9), that is positioned in the shaft guide recess (10),

- a moveable tip magnet element (36), with at least one magnet repelling element (32, 37) positioned opposite it by means of which a characteristic motion line (KL) may

15 be created, and

- at least one position arrangement (7), by means of which at least the position of the moveable magnet element (36) may be determined between the rotor hollow body (8) and the housing body (2) and/or the position

20 between the rotor hollow body (8) and the stator body element (14) and/or with a switching point (KS) after a curve maximum (KLM).

5. Device according to Claim 1 or 2 or 3 or 4,
characterized in that the disk body (3) may be tilted by
the motion element (5) with respect to the rotor hollow
body (8).

5 6. Device according to Claim 1 or 2 or 3 or 4,
characterized in that the disk body (3) may be displaced by
motion element (5) with respect to the rotor hollow body
(8).

7. Device according to one of Claims 1 through 6,
10 characterized in that the housing body (2) is at least
partially surrounded by a holding hollow cylinder (24) that
at least partially rests on a dimming element.

8. Device according to one of Claims 1 through 7,
characterized in that the housing body (2) includes a tilt
15 switch receiver recess (25) in which the disk body (3) is
held with the basic position magnet arrangement (6)
opposing the rotor hollow body (8).

9. Device according to one of Claims 1 through 8,
characterized in that the tip switch recess (25) is
20 provided with an at least partially surrounding
displacement wall (11) and the disk body (3) is provided

with an at least partially surrounding displacement body
recess (23).

10. Device according to one of Claims 1 through 9,
characterized in that the basic position magnet arrangement
5 (6) consists of an upper magnet (6.1) positioned in the
disk body (3), opposing which an lower plate element (6.2)
is positioned that is located within a final plate element
(8.1) of the rotor hollow body (8).

11. Device according to Claim 10, characterized in that the
10 lower plate element is formed by an iron plate element or
by a lower magnet (6.2).

12. Device according to one of Claims 2 through 11,
characterized in that the position arrangement (7) consists
of a light switch or of a magnet arrangement (7.1, 7.2),
15 opposite which at least one display Hall switch (7.3) may
be moved.

13. Device according to one of Claims 2 through 13,
characterized in that the magnet arrangement consists of a
display magnet element (7.1) which is positioned in the
20 disk bodies (3), to which at least one display plate (7.2)
is assigned, and on which a first display Hall switch (7.3)
is mounted.

14. Device according to one of Claims 2 through 13,
characterized in that the magnet arrangement consists of
one ring magnet element (7.1', 7.2') with a north and a
south pole (N, S) that is held by the disk body (3) and has
5 a working relationship with the rotor hollow body (8) and
to which at least a second display Hall switch (7.3) is
assigned, which is held by the stator body element (14).

15. Device according to one of Claims 2 through 15,
characterized in that a displacement display switch (7.3'),
10 tip display switch (7.3'') and/or rotation display switch
(7.3''') are used as a display Hall switch (7.3).

16. Device according to one of Claims 2 through 16,
characterized in that a double Hall switch (43) is assigned
to at least one of the magnet elements (12.1, ...) as a
15 position arrangement.

17. Device according to Claim 16, characterized in that
additional double Hall switches are used as a rotation
display switch (7.3''').

18. Device according to one of Claims 1 through 17,
20 characterized in that a label plate (4) is positioned in
the disk body (3).

19. Device according to one of Claims 1 through 18,
characterized in that the disk body (3) and the rotor
hollow body (8) are connected via linking pin (49).

20. Device according to one of Claims 1 through 19,
characterized in that two opposing noise sphere receptor
recesses (19, 20) are positioned in the stator body element
(14) in each of which a switching-sound sphere (15, 16) is
located.

21. Device according to one of Claims 1 through 20,
characterized in that there are as many switching-sound
grooves (18.1, ..., 18.n) in the switching-sound ring magnet
element (17) as there are position sensor teeth (26) on the
position sensor ring element (13).

22. Device according to Claim 21, characterized in that the
positions of the switching-sound grooves (18.1, ...) and
the position sensor teeth (26) are mutually compatible.

23. Device according to one of Claims 4 through 22,
characterized in that at least the plate element (32)
is positioned on the one side and a counter-magnet
element (37) as a repelling magnet element is
positioned on the other side opposing the tilt magnet
element (36).

24. Device according to one of Claims 4 through 24,
characterized in that the tilt magnet element (36) is
positioned with its one magnetic pole (N, S) opposite the
5 same magnetic pole (N, S) of the counter-magnet element
(37) and with its other magnetic pole (N, S) at least
opposite the plate element (32).

25. Device according to one of Claims 1 through 25,
characterized in that the tilt magnet element (36) includes
10 as one half magnetic north pole (N) and as the other half a
magnetic south pole (S).

26. Device according to one of Claims 4 through 26,
characterized in that a damping body (35) is at least
partially positioned between the plate element (32) and the
15 tilt magnet element (36).

27. Device according to one of Claims 4 through 26,
characterized in that the plate element is a steel plate
element (32).

28. Device according to one of Claims 4 through 27,
20 characterized in that the tilt magnet element (36), the
counter-magnet element (37), the steel plate element (32)

and the damping body (35) are positioned in a tilt switch housing body (38).

29. Device according to one of Claims 4 through 28, characterized in that the tilt switch housing body (38) may be inserted into the tilt switch receiver recess (25) of the stator body elements (14).

30. Device according to one of Claims 4 through 29, characterized in that the tilt magnet element (36) may be displaced by a pushrod element (31) that is integrated in the shaft element (9).

31. Device according to one of Claims 1 through 30, characterized in that the magnet elements (12.1, ...), the ring magnet element (7.1', 7.2'), the switching-sound ring magnet element (17), the tilt magnet element (36), and the counter-magnet element (37) are permanent magnets.

32. Device according to one of Claims 1 through 31, characterized in that the motion element (5) is formed as an at least partially surrounding groove with an at least partially round, oval, triangular or similar geometric cross-section.

33. Device according to one of Claims 1 through 32,
characterized in that the motion element (5) is at least
one sphere.

34. Device according to one of Claims 4 through 33,
characterized in that at least the tilt magnet element (36)
is at least partially surrounded by an iron yoke (66).